

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

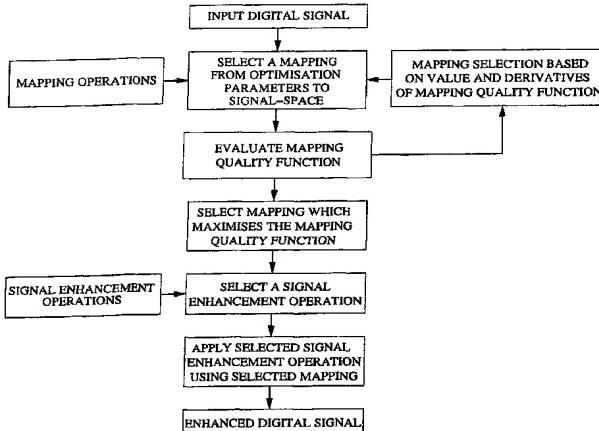
PCT

(10) International Publication Number
WO 2005/048192 A1

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|---|---|---|
| (51) International Patent Classification ⁷ : | G06T 5/00 | P. [GB/GB]; 8 Herbert Street, Cambridge CB4 1AQ (GB).
MCLACHLAN, Charles I [GB/GB]; 25 Hale Street, Cambridge CB4 3BZ (GB). |
| (21) International Application Number: | PCT/GB2004/004741 | (74) Agent: GARRATT, Peter ; Mathys & Squire, 120 Holborn, London EC1N 2SQ (GB). |
| (22) International Filing Date: | 10 November 2004 (10.11.2004) | (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW. |
| (25) Filing Language: | English | (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, |
| (26) Publication Language: | English | |
| (30) Priority Data: | 0326167.4 10 November 2003 (10.11.2003) GB | |
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[Continued on next page]

(54) Title: DIGITAL SIGNAL PROCESSING WITH IMPROVED MAPPING



(57) **Abstract:** A method of performing a signal enhancement operation on a digital input signal is described. The method produces a best estimate of a true signal which the digital input signal is assumed to represent. The method involves deriving a plurality of candidate mappings, each defining a mapping between the signal domain of the digital input signal and an alternative optimisation domain, each signal in the signal domain corresponding to a set of optimisation parameters in the optimisation domain. For each candidate mapping, an indicator of the quality of the candidate mapping is calculated on a set of optimisation parameters in the optimisation domain of the candidate mapping is generated, the set of optimisation parameters representing an enhanced signal in that domain. The highest-quality mapping is then selected in dependence on the calculated indicators, and the set of optimisation parameters generated for the selected mapping is selected. The selected mapping is applied to the selected set of optimisation parameters to produce an enhanced digital signal. The method finds application in a variety of signal processing fields including image processing, and is applicable for example, to image processing tasks such as image enhancement or image reconstruction.

WO 2005/048192 A1



SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

(15) Information about Correction:

see PCT Gazette No. 39/2005 of 29 September 2005, Sec-
tion II

Published:

— *with international search report*

(48) Date of publication of this corrected version:

29 September 2005

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*